

This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.015 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards (effective January 6, 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1. Facility Name and Mailing Address: Mountain View Nursing Home
1776 Elly Road
Aroda, VA 22709

Facility Location: 1776 Elly Road
Aroda, VA 22709

Facility Contact Name: Eldon Hochstetler
Facility Email Address: Eldon@mvnursing.net

SIC Code: 4952 WWTP

County: Madison

Telephone Number: 540-717-2115
2. Permit No.: VA0063347
Other VPDES Permits: None
Other Permits: Petroleum Permit No. 20073146
E2/E3/E4 Status: NA

Expiration Date: 08/26/2014
3. Owner Name: Oak Grove Mennonite Church
Owner Contact / Title: Eldon Hochstetler/Administrator
Owner Email Address: Eldon@mvnursing.net

Telephone Number: 540-717-2115
4. Application Complete Date: 02/27/2014
Permit Drafted By: Anna Westernik
Draft Permit Reviewed By: Doug Frasier
Final Review By: Alison Thompson
Public Comment Period : Start Date: 8/7/2014

Date Drafted: 7/1/2014
Date Reviewed: 7/1/2014
Date Reviewed: 7/8/2014
End Date: 9/8/2014
5. Receiving Waters Information: The Outfall 001 drainage area is 0.12 square miles. Therefore, the receiving stream can be assumed to have an intermittent flow; all flows were determined to be 0.0 MGD.
Receiving Stream Name: Great Run, UT
Drainage Area at Outfall: 0.12 square miles
Stream Basin: Rappahannock River
Section: 4
Special Standards: None
7Q10 Low Flow: 0.0 MGD
1Q10 Low Flow: 0.0 MGD
30Q10 Low Flow: 0.0 MGD
Harmonic Mean Flow: 0.0 MGD

Stream Code: 3-XBV
River Mile: 1.8
Subbasin: None
Stream Class: III
Waterbody ID: VAN-E15R
7Q10 High Flow: 0.0 MGD
1Q10 High Flow: 0.0 MGD
30Q10 High Flow: 0.0 MGD
30Q5 Flow: 0.0 MGD
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<u> X </u> State Water Control Law <u> X </u> Clean Water Act <u> X </u> VPDES Permit Regulation <u> X </u> EPA NPDES Regulation	<u> X </u> EPA Guidelines <u> X </u> Water Quality Standards _____ Other
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7. **Licensed Operator Requirements:** Class III8. **Reliability Class:** Class II9. **Facility / Permit Characterization:**

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule
<input type="checkbox"/> State	<input type="checkbox"/> Whole Effluent Toxicity Program	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> eDMR Participant	<input checked="" type="checkbox"/> Total Maximum Daily Load (TMDL)	

10. **Wastewater Sources and Treatment Description:**

The treatment system consists of a grease trap, a sludge holding tank, an anoxic tank with a bar screen, an aeration tank, a clarifier tank, an effluent flow weir, a two-tablet chlorination chamber, a chlorine contact chamber, a two-tablet dechlorination chamber, and cascade post aeration ladder to Outfall 001 that discharges near the stream bank to an unnamed tributary of Great Run. This package plant, installed in February 2006, replaced a lagoon system.

See **Attachment 1** for a facility schematic/diagram.

TABLE 1 -- OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Design Flow	Latitude / Longitude
001	Domestic and/or Commercial Wastewater	See Section 10	0.015 MGD	38° 20' 19" 78° 12' 11"

See **Attachment 2** for the Madison Mills topographic map (185C).

11. **Sludge Treatment and Disposal Methods:**

The sludge holding tank is pumped every two to four weeks and the grease trap is pumped approximately every three to four months. Wasted sludge is disposed of via pump-and-haul contractor Roto-Rooter at either the Gordonsville STP (VA0021105) or the Moore's Creek Regional STP (VA0025518).

12. Discharges Located Within Waterbody VAN-E15R:

TABLE 2 -- DISCHARGES IN WATERBODY VAN-E15R			
ID/Permit	Facility Name	Latitude/Longitude	Receiving Stream
VPDES Individual Permits			
VA0022845	The Town of Madison WWTP	38° 22' 48" / 78° 14' 11.9"	Little Dark Run
VA0063347	Mountain View Nursing Home	38° 20' 19" / 78° 12' 11"	Great Run, UT
VA0068951	Hartland Institute	38° 20' 13" / 78° 05' 29"	Robinson River
VA0087696	Madison Wood Preservers, Inc.	38° 22' 21" / 78° 15' 01" (Outfall 001)	Little Dark Run, UT
		38° 22' 35" / 78° 15' 22" (Outfall 002)	
Single Family Homes General Permits			
VAG406507	Shifflett Katherine B and Roger L Residence		Dark Run
VAG406303	Haynes C J Residence		Muddy Run

13. Material Storage:

TABLE 3 -- MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Chlorine Tablets	One to two 5-Gallon Buckets	Contained in a building without a floor drain.
Dechlorination Tablets	One to two 5-Gallon Buckets	Contained in a building without a floor drain.
Nitrification Aid (Formula Nitro)	One 5-Gallon Bucket	Contained in a building without a floor drain.
Lime	Ten 50-lb. Bags	Contained in a building without a floor drain.

14. Site Inspection:

Performed by Anna Westernik, Lisa Janovsky, and Rebecca Shoemaker on May 29, 2014 (see **Attachment 3**).

15. Receiving Stream Water Quality and Water Quality Standards:**a. Ambient Water Quality Data**

This facility discharges into an unnamed tributary to Great Run that has not been monitored or assessed. Great Run is located approximately 1.8 miles downstream from Outfall 001 and DEQ ambient monitoring station 3-GRA002.01 is located on Great Run at Route 15, approximately seven miles downstream from Outfall 001. The following is the water quality summary for this segment of Great Run, as taken from the 2012 Integrated Report:

Class III, Section 4.

DEQ monitoring station located in this segment of Great Run: Ambient and biological monitoring station 3-GRA002.01, at Route 15.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Robinson River. Biological

monitoring finds a benthic macroinvertebrate impairment, resulting in an impaired classification for the aquatic life use.

The wildlife use is considered fully supporting. The fish consumption use was not assessed.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 4 – 303(d) LISTED STREAM SEGMENTS AND TMDLS							
Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
<i>Impairment Information in the 2012 Integrated Report</i>							
Great Run	Recreation	<i>E. coli</i>	1.8 miles	Robinson River Basin Bacteria 12/12/2005	*2.61E+10 cfu/year <i>E. coli</i>	126 cfu/100 ml <i>E. coli</i> --- 0.015 MGD	----
	Aquatic Life	**Benthic Macroinvertebrates	1.8 miles	----	----	----	2024

*The Waste Load Allocation has been updated and is based on the design flow of 0.015 MGD that has been applicable since the 2006 plant upgrade. The planning statement for the previous permit reissuance assigned a WLA to this facility based on a design flow of 0.0125 MGD. This facility was not originally included in the Robinson River Basin Bacteria TMDL; however, the TMDL did include an expansion matrix to determine the effect of possible expansion by current facilities or the issuance of new permits within the watershed. Discharge from permitted point sources was increased by two and five times the existing permit levels. The modeling showed that the increases did not result in exceedences of the water quality standard. In addition, the bacteria loadings from this facility, at 0.015 MGD, amount to 0.008% of the TMDL allocation for the lower Robinson River. Finally, the permit for this facility will ensure the discharge meets the water quality criteria for *E. coli* bacteria at the end-of-pipe. The assignment of the updated WLA to this facility based upon the 0.015 MGD design flow is consistent with the assumptions and requirements of the Robinson River Basin Bacteria TMDL.

**Additional monitoring will not be requested from this facility in support of the downstream benthic impairment. This downstream impairment for Great Run is listed in the 2012 Integrated Report. More recent benthic monitoring conducted in Great Run shows acceptable scores for the benthic macroinvertebrate communities, which makes this stream eligible for delisting in the next Integrated Report. It is expected that Great Run will be delisted for the aquatic life use in the 2014 Integrated Report; therefore, no additional monitoring is needed at this time.

This facility discharges to an unnamed tributary within the Chesapeake Bay watershed. The receiving stream has been identified in the Chesapeake Bay TMDL; approved by the Environmental Protection Agency (EPA) on December 29, 2010. The TMDL addresses dissolved oxygen (D.O.), chlorophyll a and submerged aquatic vegetation (SAV) impairments in the main stem Chesapeake Bay and its tributaries by establishing nonpoint source load allocations (LAs) and point source wasteload allocations (WLAs) for total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS) to meet applicable Virginia Water Quality Standards contained in 9VAC25-260-185.

Implementation of the Chesapeake Bay TDML is currently accomplished in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP); approved by EPA on December 29, 2010. The approved WIP recognizes the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia* (9VAC25-820 et seq.) as controlling the nutrient allocations for non-significant Chesapeake Bay dischargers. The approved WIP states that for non-significant municipal facilities, nutrient WLAs are to be consistent with Code of Virginia procedures, which set baseline WLAs at 2005 permitted design capacity nutrient load levels. In accordance with the WIP, TN and TP WLAs for non-significant facilities are considered aggregate allocations and will not be included in individual permits. However, annual monitoring for TN and TP is included in this permit. The WIP also considers TSS WLAs for non-significant facilities to be aggregate allocations; however, TSS limits are to be included in individual VPDES permits in conformance with the technology-based requirements found in the Clean Water Act. Furthermore, the WIP recognizes that so long as the aggregated TSS permitted loads for all dischargers is

less than the aggregated TSS load in the WIP, the individual permit will be consistent with the TMDL.

40 CFR 122.44(d)(1)(vii)(B) requires permits to be written with effluent limits necessary to meet water quality standards and to be consistent with the assumptions and requirements of applicable WLAs. This facility is classified as a non-significant Chesapeake Bay discharger and has not made application for a new or expanded discharge since 2005. It is therefore covered by rule under the 9VAC25-820 regulation. In accordance with the WIP, TN and TP load limits are not included in this individual permit, but are consistent with the TMDL because the current nutrient loads are in conformance with the facility's 2005 permitted design capacity loads. This individual permit includes monthly average TSS limits of 30 mg/L that are in conformance with technology-based requirements and; in turn, are consistent with the Chesapeake Bay TMDL.

In addition, this individual permit contains limits for ammonia, biochemical oxygen demand-5 day (BOD₅), and D.O. that provide protection of instream D.O. concentrations of at least 5.0 mg/L and monitoring for TN and TP. Furthermore, implementation of the full Chesapeake Bay WIP, including GP reductions combined with actions proposed in other source sectors, is expected to adequately address ambient conditions such that the proposed effluent limits found within this individual permit are consistent with the Chesapeake Bay TMDL and will not cause an impairment or observed violation of the standards for D.O., chlorophyll a, or SAV as required by 9VAC25-260-185.

The full planning statement is found in **Attachment 4**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Great Run, UT, is located within Section 4 of the Rappahannock River Basin and is a Class III water.

Class III waters must achieve a D.O. of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C, and maintain a pH of 6.0-9.0 standard units (S.U.) at all times.

Some water quality criteria are dependent on the temperature and pH or total hardness of the receiving stream and/or the final effluent. These values were utilized to determine the criteria found in **Attachment 5** (Freshwater Water Quality Criteria/Wasteload Allocation Analysis) for the following pollutants:

1) pH and Temperature for Ammonia Criteria

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream pH and temperature. Additionally, since the effluent may also have an impact on the instream values, the pH and temperature values of the effluent must be considered when determining the ammonia criteria for the receiving stream. The 90th percentile pH and temperature values are utilized because they best represent the critical conditions of the receiving stream.

The critical 30Q10 and 1Q10 flows of the receiving stream have been determined to be 0.0 MGD. In cases such as this, effluent pH and temperature data alone may be utilized to establish the ammonia water quality criteria. See **Attachment 6** for the 90th percentile values of the effluent pH and temperature derived from maximum pH values for September 2009 through May 2014. Bench sheets from November 2013 to April 2014 showing daily pH and temperature data are in the file of record for this permit.

Staff finds no significant difference from the pH data used to establish ammonia criteria and subsequent effluent limits in the previous permit reissuance and this reissuance (a 90th percentile pH value of 8.4 S.U. was calculated for this reissuance and a 90th percentile pH value of 8.0 S.U. was used to establish ammonia criteria in the previous reissuance). Therefore, an effluent pH value of 8.0 S.U. shall be carried forward to determine ammonia criteria as part of this reissuance process.

Default temperature values of 25° C and 15° C for summer and winter were utilized to calculate ammonia criteria. The ammonia water quality standards calculations are shown in **Attachment 5**.

2) Hardness-Dependent Metals Criteria

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent total hardness values (expressed as mg/L calcium carbonate).

There is no hardness data for this facility. Staff guidance suggests utilizing a default hardness value of 50 mg/L CaCO₃ for streams east of the Blue Ridge. The hardness-dependent metals criteria in **Attachment 5** are based on this default value.

3) Bacteria Criteria

The Virginia Water Quality Standards at 9VAC25-260-170A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean ¹
Freshwater <i>E. coli</i> (N/100 mL)	126

¹For a minimum of four weekly samples taken during any calendar month

Other water quality criteria applicable to the receiving stream are detailed in **Attachment 5**.

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380), designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, an unnamed tributary of Great Run, is located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

It is staff's best professional judgement that the receiving stream be classified as Tier 1 since the stream critical flows have been determined to be zero; therefore, the stream flow at times may be comprised of only effluent.

The proposed permit limits have been established by determining wasteload allocations that will result in attaining and/or maintaining all water quality criteria that apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the WLAs are calculated. In this case since the critical 7Q10, 1Q10 and 30Q10 flows have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration values is greater than the chronic WLA. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the discharge monitoring reports (DMRs) has been reviewed and determined to be suitable for evaluation. A wasteload allocation analysis is required for ammonia and total residual chlorine (TRC). A summary of effluent data can be found in the permit file.

b. Mixing Zones and Wasteload Allocations

WLAs are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where: WLA = Wasteload allocation
 C_o = In-stream water quality criteria
 Q_e = Design flow
 Q_s = Critical receiving stream flow
 (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
 f = Decimal fraction of critical flow
 C_s = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 has been determined to have critical 7Q10, 1Q10 and 30Q10 flows of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o .

Staff derived WLAs where parameters are reasonably expected to be present in an effluent (e.g., TRC where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge, ammonia as N is likely present since this is a sewage treatment plant and TRC may be present since chlorine is used for disinfection. **Attachment 5** details the WLA derivations for these pollutants.

c. Effluent Limitations, Outfall 001 -- Toxic Pollutants

9VAC25-31-220.D requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as Nitrogen

Staff calculated the water quality criteria used to determine ammonia limits based on a pH value of 8.0 S.U., a summer temperature of 25°C, and a winter temperature of 15°C (see Section 15.c 1) of this fact sheet). A sole data point of 9.0 mg/L recommended by DEQ guidance for discharges containing domestic sewage was used to ensure the evaluation adequately addressed the potential presence of ammonia.

This analysis resulted in a monthly and weekly average limitation of 2.5 mg/L. In accordance with the antibacksliding provision of the Clean Water Act, a monthly average limitation of 2.2 mg/L will remain in the permit, because this current ammonia limit is more stringent than the proposed ammonia limit. The weekly limitation of 2.5 mg/L replaces the current weekly limitation of 2.7 mg/L. See **Attachment 7** for the calculation of the current ammonia limitations and the calculation of the ammonia limitations for the 2009 permit reissuance.

2) Total Residual Chlorine

Chlorine is utilized for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows and the mixing allowance, as applicable. In accordance with current DEQ guidance, staff employed a default data point of 20 mg/L and the calculated WLAs to derive limits. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (see **Attachment 7**).

3) Metals/Organics

It is staff's best professional judgment that given the wastewater sources; limitations are not warranted at this time.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to D.O., BOD₅, TSS, and pH limitations are proposed.

D.O. and BOD₅ limitations are based on the stream modeling conducted in May 1978 (**Attachment 8**) and are set to meet the water quality criteria for D.O. in the receiving stream.

It is staff's practice to use best professional judgment to equate the TSS and BOD₅ limitations since the two pollutants are closely related in terms of treatment of domestic sewage.

pH limitations are set at the water quality criteria and are in accordance with the Federal effluent requirements.

E. coli limitations are in accordance with the Water Quality Standards 9VAC25-260-170 and the Robinson River Bacteria TMDL WLA for this facility.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in Section 19. Limitations were established for BOD₅, TSS, Ammonia as Nitrogen, pH, D.O., TRC, and *E. coli*. Monitoring for TKN, Nitrite + Nitrate, TN, and TP was established per DEQ Guidance.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water quality-based effluent limits and result in greater than 85% removal.

Review of the March 2013 through February 2014 effluent data suggests that this facility is achieving the required removal rates when compared to expected influent BOD and TSS concentrations (see the Sewage Collection and Treatment Regulations at 9VAC25-790-460.F). Therefore, influent BOD and TSS monitoring is not warranted during this permit term.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.015 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	I/D	Estimate
pH	1, 2	NA	NA	6.0 S.U.	9.0 S.U.	I/D	Grab
BOD ₅ ^a	2, 3	30 mg/L 1.7 kg/day	45 mg/L 2.6 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS) ^{a, b}	4	30 mg/L 1.7 kg/day	45 mg/L 2.6 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (D.O.)	2, 3	NA	NA	6.0 mg/L	NA	1/D	Grab
Ammonia, as N	3, 5	2.2 mg/L	2.5 mg/L	NA	NA	1/M	Grab
<i>E. coli</i> (Geometric Mean) ^{c, d}	2	126 n/100mL	NA	NA	NA	1/W	Grab
Total Residual Chlorine (after contact tank)	6	NA	NA	1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	2	0.008 mg/L	0.010 mg/L	NA	NA	1/D	Grab
Total Phosphorus (TP) ^e	4	NA	NA	NA	NL (mg/L)	1/Y	Grab
Total Kjeldahl Nitrogen (TKN) ^e	4	NA	NA	NA	NL (mg/L)	1/Y	Grab
Nitrite + Nitrate ^e	4	NA	NA	NA	NL (mg/L)	1/Y	Grab
Total Nitrogen (TN) ^{e, f}	4	NA	NA	NA	NL (mg/L)	1/Y	Calculated

The basis for the limitations codes are:

- | | | |
|-------------------------------------|------------------------------------|---------------------------------|
| 1. Federal Effluent Requirements | MGD = Million gallons per day. | I/D = Once every day. |
| 2. Virginia Water Quality Standards | NA = Not applicable. | 1/M = Once every month. |
| 3. Stream Model – Attachment 8 | NL = No limit; monitor and report. | 1/W = Once every week. |
| 4. Best Professional Judgment | S.U. = Standard units. | 1/Y = Once every calendar year. |
| 5. Robinson River TMDL | | |
| 6. DEQ Disinfection Guidance | | |

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15 minutes.

- At least 85% removal for BOD₅ and TSS shall be attained.
- TSS shall be expressed as two significant figures.
- Samples shall be collected between 10:00 a.m. and 4:00 p.m.
- The permittee shall sample and submit *E. coli* results at the frequency of once every week for two (2) months.

If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean.

The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

- Nonsignificant dischargers are subject to aggregate wasteload allocations for TN, TP, and sediments under the Total Maximum Daily Load (TMDL) for Chesapeake Bay. Monitoring of TN and TP is required in order to verify the aggregate wasteload allocations.
- Total Nitrogen, which is the sum of TKN and Nitrite + Nitrate, shall be derived from the results of those tests.

20. Other Permit Requirements:

- a. Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-790 and by the Water Quality Standards at 9VAC25-260-170. A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more than 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

- a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4 requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a PVOTW.
- b. Indirect Dischargers. Required by the VPDES Permit Regulation at 9VAC25-31-200.B.1 and B.2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c. O&M Manual Requirement. Required by the Code of Virginia at §62.1-44.19; the Sewage Collection and Treatment Regulations at 9VAC25-790; and the VPDES Permit Regulation at 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d. CTC, CTO Requirement. The Code of Virginia at § 62.1-44.19 and the Sewage Collection and Treatment Regulations at 9VAC25-790 require that all treatment works treating wastewater obtain a Certificate to Construct (CTC) prior to commencing construction and obtain a Certificate to Operate (CTO) prior to commencing operation of the treatment works.
- e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq., the VPDES Permit Regulation at 9VAC25-31-200.C., and the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations at 18VAC160-20-10 et seq. requires licensure of operators. This facility requires a Class III operator.
- f. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a reliability Class of II.
- g. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- h. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2, and 420 through 720 and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

- i. Pharmaceutical Management and Disposal. This sewage treatment works serves a long-term health care facility. Due to the chronically ill nature of the residents, a large volume of pharmaceuticals are used at the facility. This permit shall require the development of a Pharmaceutical Management and Disposal Plan that shall address the proper handling, storage, and disposal of pharmaceuticals to prevent the discharge of unused medications into the wastewater treatment system. The plan shall be developed such that it is consistent with all applicable regulatory requirements, including those for the proper handling and disposal of solid, biological, and/or hazardous wastes. The plan shall be submitted to DEQ for review and approval within 180 days of this permit reissuance date and shall be enforceable under the permit.
- j. Total Maximum Daily Load (TMDL) Reopener. Section 303(d) of the Clean Water Act requires that TMDLs be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

22. Permit Section Part II.

Required by the VPDES Regulation at 9VAC25-31-190. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

- a. Special Conditions:
 - 1) The Water Quality Criteria Reopener Special Condition has been removed.
 - 2) The Treatment Works Closure Plan Special Condition has been removed.
 - 3) A Pharmaceutical Disposal and Management Special Condition has been added.
- b. Monitoring and Effluent Limitations:
 - 1) The weekly average limit for ammonia as nitrogen has been changed from 2.7 mg/L to 2.5 mg/L. The monitoring frequency for ammonia as nitrogen has been changed from twice per month to monthly.
 - 2) The monitoring frequency for *E. coli* has been changed from twice per month to once per week.
 - 3) Nutrient monitoring has been added per DEQ Guidance.
- c. Other
 - 1) The requirement for VELAP Certification of laboratories has been added to Part II of the permit.
 - 2) The Planning Statement has been updated to reflect a change in the river mile discharge value and drainage area size.

23. Variances/Alternate Limits or Conditions: None

25. Public Notice Information:

First Public Notice Date: 8/7/2014

Second Public Notice Date: 8/14/2014

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court; Woodbridge, VA 22193; Telephone No. 703-583-3837, anna.westernik@deq.virginia.gov. See **Attachment 9** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will

be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. Additional Comments:

Previous Board Actions: Oak Grove Mennonite Church (Oak Grove) was originally under a Consent Order (order), effective December 14, 2000 to upgrade the STP in two phases. Upon completion of Phase I, the facility could not consistently comply with its permit limits and commenced Phase II which was to install a package plant. The order was amended twice, effective June 21, 2004 and March 17, 2006 for delays in submittal of approvable plans and specifications and construction completion. The new plant was put on line in February 2006.

Oak Grove was then issued an order effective December 4, 2007 for effluent limitation exceedences for *E. coli*, TRC, Ammonia, and TSS. Oak Grove complied with all of the terms of the order; the order was canceled on June 16, 2008.

Staff Comments: None.

State/Federal Agency Comments: None.

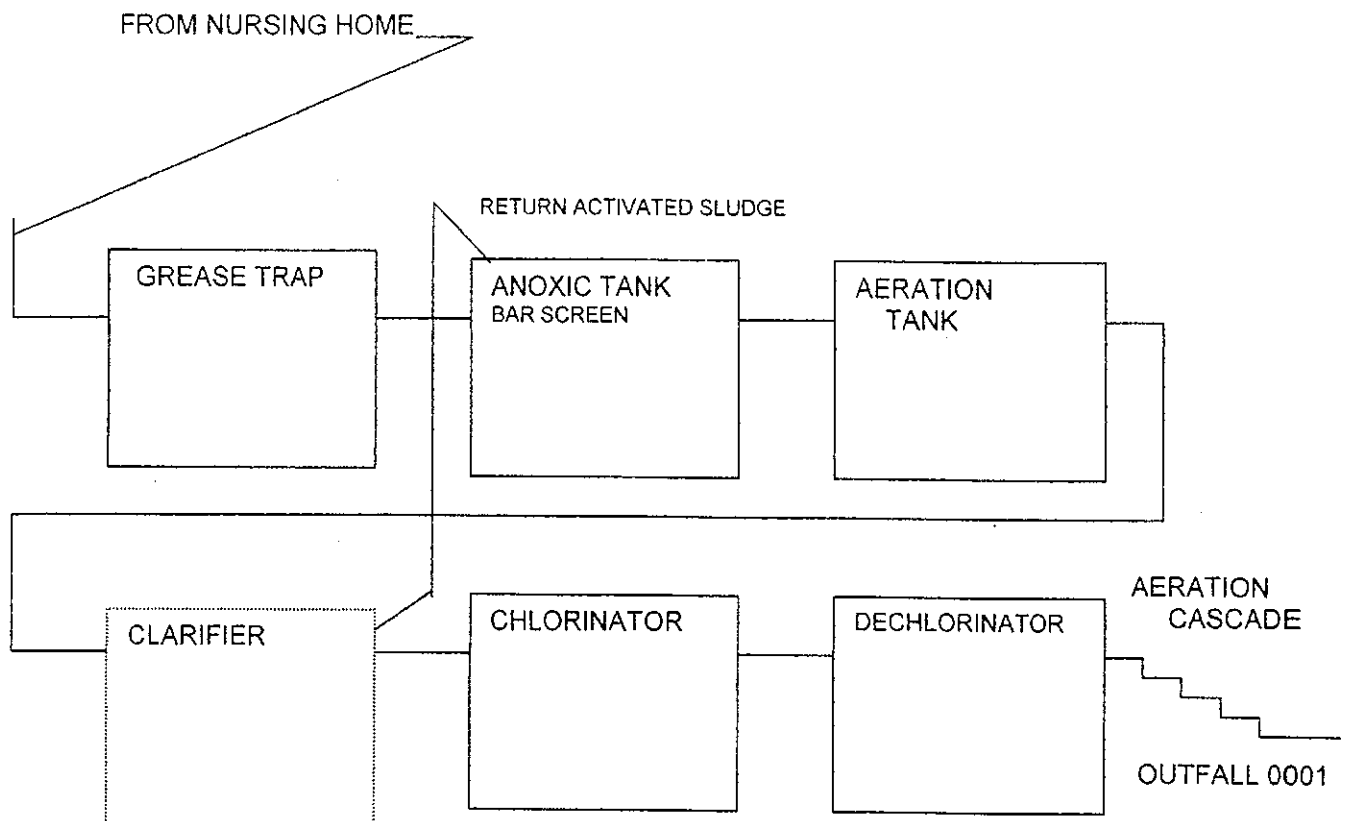
Public Comments: No comments were received during the public notice period.

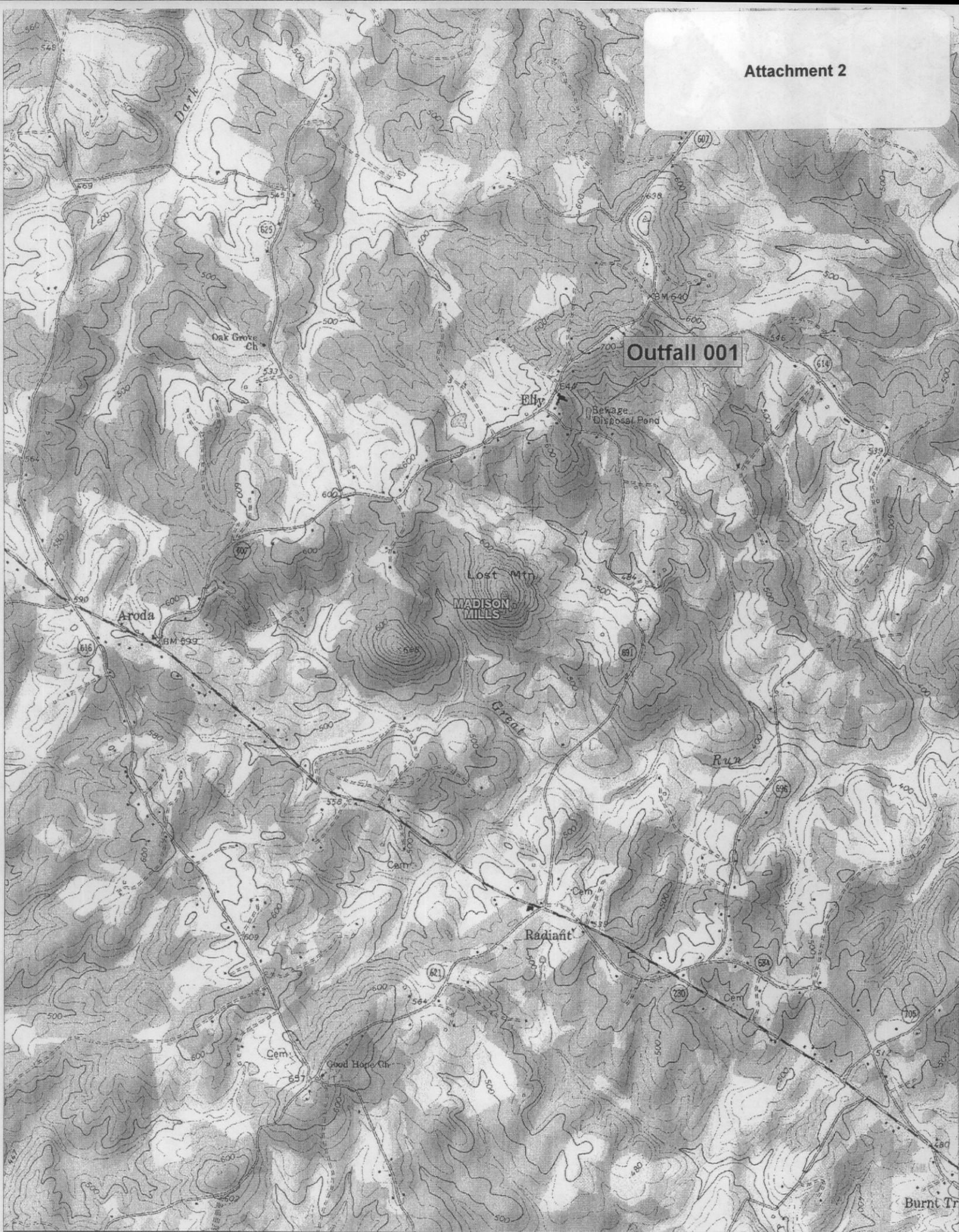
Owner Comments: None.

ATTACHMENTS

Attachment 1	Facility Diagram
Attachment 2	Madison Mills topographic map (185C)
Attachment 3	Virginia DEQ Recon Inspection Report Dated June 20, 2014
Attachment 4	Planning Statement
Attachment 5	Freshwater Water Quality Criteria/Wasteload Allocation Analysis
Attachment 6	90th Percentile Values of the Effluent pH and Temperature Derived from Maximum pH Values for September 2009 through May 2014
Attachment 7	Ammonia and TRC Limitations Calculations
Attachment 8	May 1978 Stream Model
Attachment 9	Public Notice

MOUNTAIN VIEW NURSING HOME WASTEWATER TREATMENT PLANT
FLOW DIAGRAM







COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN VIRGINIA REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800 Fax (703) 583-3801

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

June 20, 2014

Mr. Eldon Hochstetler
Mountain View Nursing Home
1776 Elly Rd.
Aroda, VA 22709

Re: Mountain View Nursing Home STP, Permit #VA006337

Dear Mr. Hochstetler:

Attached is a copy of the Site Inspection Report generated from the Facility Recon Inspection conducted at Mountain View Nursing Home – Sewage Treatment Plant (STP) on May 29, 2014.

Please review the enclosed report and submit in writing adequate documentation of all measures taken (including all necessary supporting documentation) to address the Request for Corrective Action Section no later than July 20, 2014. Your response may be sent either via the US Postal Service or electronically, via E-mail. If you choose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at (703) 583-3801 or by E-mail at lisa.janovsky@deq.virginia.gov.

Sincerely,

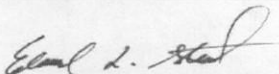
Lisa Janovsky
Environmental Specialist II
Water Compliance Inspector
cc: Permits / DMR File

Attachment 3

VA DEQ Recon Inspection Report

Virginia Department of Environmental Quality

RECON INSPECTION REPORT

FACILITY NAME: Mountain View Nursing Home Sewage Treatment Plat (STP)		INSPECTION DATE: May 29 th 2014 INSPECTOR: Lisa Janovsky					
PERMIT No.: VA0063347		REPORT DATE: June 20, 2014					
TYPE OF FACILITY: <input checked="" type="checkbox"/> Municipal <input type="checkbox"/> Major <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Federal <input type="checkbox"/> Small Minor <input type="checkbox"/> HP <input type="checkbox"/> LP		TIME OF INSPECTION: TOTAL TIME SPENT (including prep & travel)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Arrival 10:00am</td> <td style="padding: 5px;">Departure 11:24Am</td> </tr> <tr> <td colspan="2" style="padding: 5px; text-align: center;">12 hours</td> </tr> </table>	Arrival 10:00am	Departure 11:24Am	12 hours	
Arrival 10:00am	Departure 11:24Am						
12 hours							
PHOTOGRAPHS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		UNANNOUNCED INSPECTION? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
REVIEWED BY / Date: <div style="text-align: center; margin-top: 10px;">  6/17/14 </div>							
PRESENT DURING INSPECTION: Anna Westernik-DEQ Rebecca Shoemaker-DEQ Michael Yoder-Mountain View Plant Operator Eldon Hochstetler-Mountain View Administrator							

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

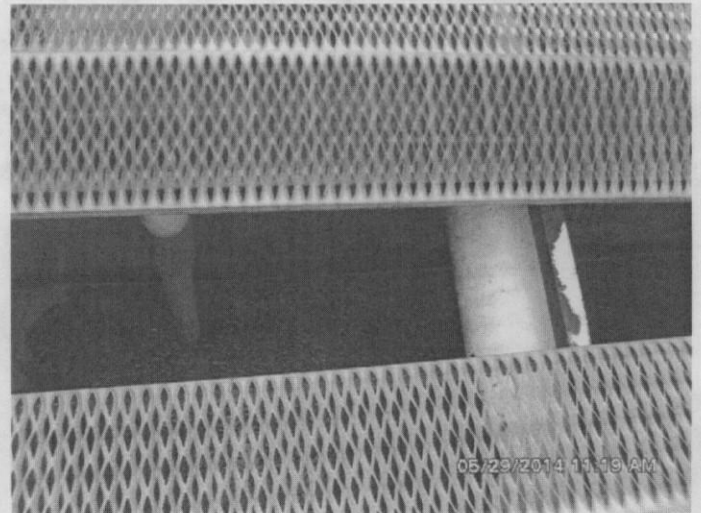
- Ms. Janovsky, Ms. Westernik, and Ms. Shoemaker arrived on site at 10:00 AM. The weather was cloudy, rainy, and in the mid-60's. DEQ was conducting a recon inspection to obtain information and conduct a meeting for the permit reissuance.
- Photos taken by Ms. Janovsky.
- Mr. Eldon Hochstetler and DEQ staff had a discussion regarding discrepancies that were found in the flow data filled out on the permit application versus the submitted Discharge Monitoring Reports (DMRs). Mr. Hochstetler stated that it was a bookkeeping error and the flows have been calculated wrong since the permit issuance in 2009.
- Mr. Michael Yoder and DEQ staff discussed the exceedences in ammonia that were occurring on previously submitted DMR's for February and March 2014. Mr. Yoder stated that the cold temperatures slowed down the treatment process, which in turn allowed more ammonia to pass through to the outfall. He also stated that Don Hearl with ESS and Tim Clemmons came out and advised them to add hydrated lime and a bacteria aid to the system, which they are currently doing.
- Mr. Yoder stated that he informs the cleaning staff to be conscious of what they put down the drain. Ms. Westernik asked Mr. Hochstetler to write up and follow a pharmaceutical disposal plan, which they do not currently have.
- The treatment system consists of a grease trap, sludge holding tank, anoxic tank with bar screen, an aeration tank, clarifier tank, an effluent flow weir, a two-tablet chlorination chamber, a chlorine contact tank, and a cascade post-aeration ladder. The effluent discharges to an unnamed tributary of Great Run.
- The sludge holding tank at the STP is pumped every two to four weeks and the grease trap is pumped approximately every 3-4 months or as needed by Roto Rooter.
- There was some light colored foam on the aeration basin. The clarifier was clear.
- The tanks were covered with gates which were closed and secure upon arrival.

VA DEQ Recon Inspection Report

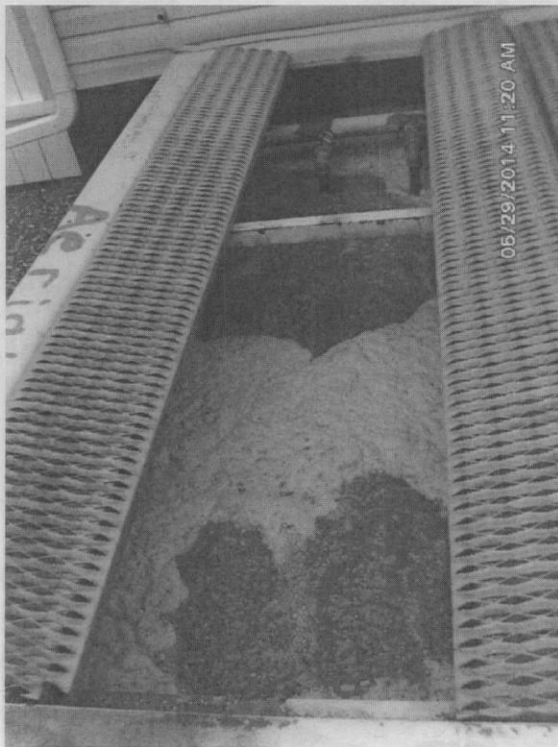
- Ms. Janovsky examined the lab and noted that the DO meter has been replaced by a Pro 20 YSI (from a Thermo Orion 4 star meter). The Hatch Sension 1 meter is still being utilized for pH.
- All wastewater flow rates are estimated using the potable water meters rather than flow from the weir. Mr. Hochstetler stated that the flow weir did not seem as accurate.
- The discharge at the outfall was clear, odorless, and no solids were observed in the receiving stream.



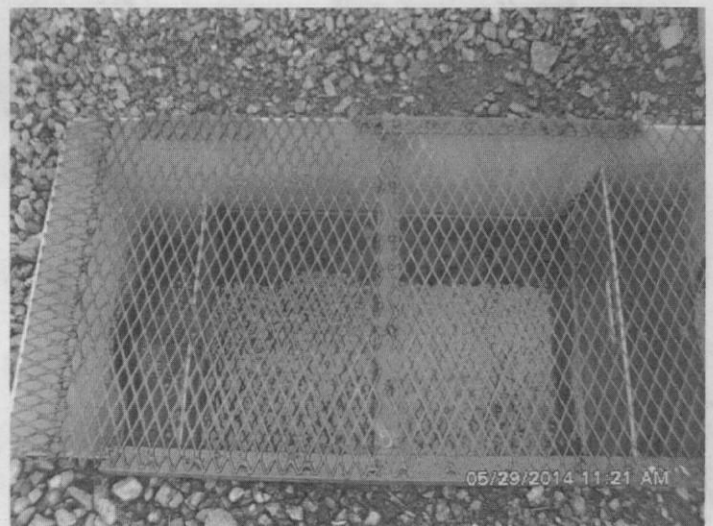
1) Inlet tee of the sludge holding tank



2) Anoxic Zone



3) Aeration Basin



4) Effluent Flow Weir

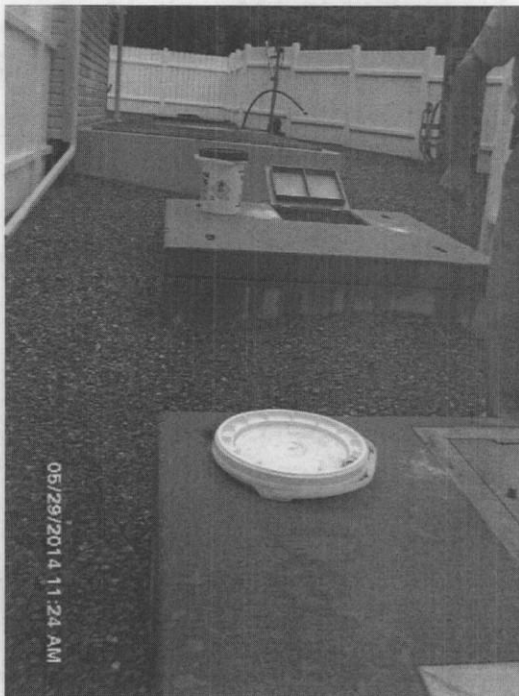
VA DEQ Recon Inspection Report



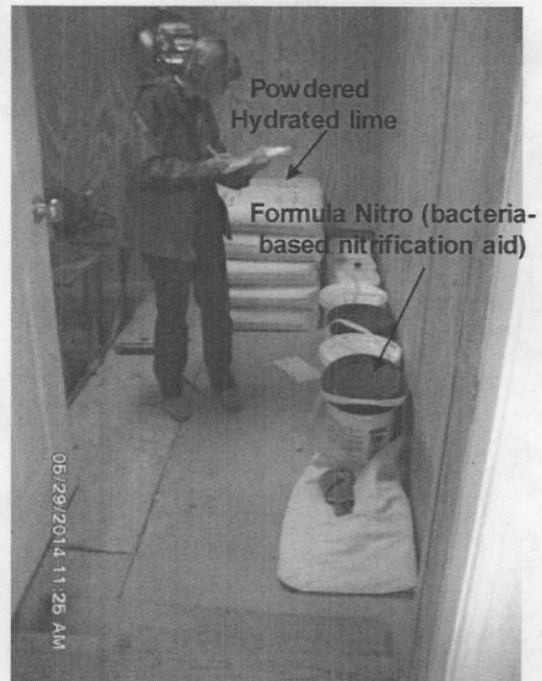
5) Chlorine tablet feeder



6) De-chlorination Tablet feeder



7) Overview of STP



8) Chemical storage in laboratory closet

Permit #

VA0063347

Photos Taken By:

Lisa Janovsky

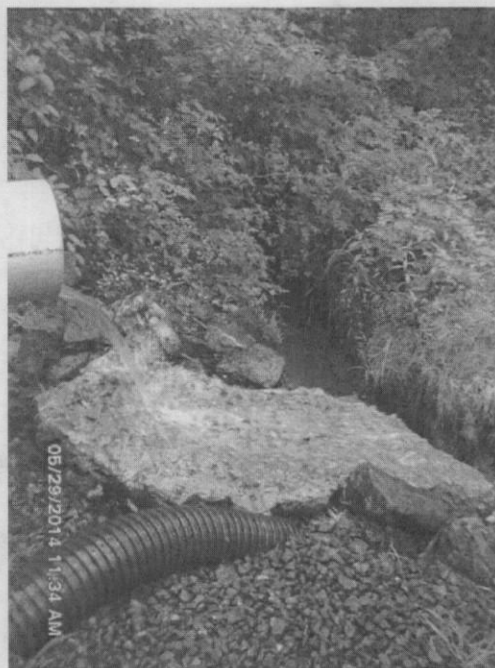
Layout By:

Lisa Janovsky

VA DEQ Recon Inspection Report



9) Step cascade aeration



10) Outfall 001



11) Downstream from 001



12) Lab station

Permit #

VA0063347

Photos Taken By:

Lisa Janovsky

Layout By:

Lisa Janovsky

VA DEQ Recon Inspection Report

Permit #	VA0063347
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EFFLUENT FIELD DATA:

Flow <input type="text"/> MGD	Dissolved Oxygen <input type="text"/> mg/L	TRC (Contact Tank) <input type="text"/> mg/L
pH <input type="text"/> S.U.	Temperature <input type="text"/> °C	TRC (Final Effluent) <input type="text"/> mg/L
Was a Sampling Inspection conducted? <input type="checkbox"/> Yes (see Sampling Inspection Report) <input checked="" type="checkbox"/> No		

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall: ☒ Shore based ☐ Submerged Diffuser? ☐ Yes ☒ No
 2. Are the outfall and supporting structures in good condition? ☒ Yes ☐ No
 3. Final Effluent (evidence of following problems):

<input type="checkbox"/> Sludge bar	<input type="checkbox"/> Grease
<input type="checkbox"/> Turbid effluent	<input type="checkbox"/> Visible foam
<input type="checkbox"/> Unusual color	<input type="checkbox"/> Oil sheen
 4. Is there a visible effluent plume in the receiving stream? ☐ Yes ☒ No
 5. Receiving stream: ☒ No observed problems ☐ Indication of problems (explain below)
- Comments:** The receiving stream and discharge effluent looked clear with no solids and visible foam present. There was no odor detected.

REQUEST for CORRECTIVE ACTION:

1. **Permit VA007942 Part II.D. States** "The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit."
- **Provide DEQ with the revised flow data from 2009-present and revised parameter loading data for BOD, TSS and nutrient loading in a user friendly spreadsheet format (we do not need each individual DMR) by July 20, 2014. Please include a letter of explanation along with the data. Please refer to the email that was sent out on 6/6/2014 and 6/20/14 by Lisa Janovsky.**

NOTES and COMMENTS:

- DEQ recommends using a constant feed liquid system rather than adding powdered hydrated lime to the plant. Ms. Westernik noticed large intermittent spikes in pH on your daily logs, which may be attributable to the manual addition of powdered lime.

To: Anna Westernik
From: Rebecca Shoemaker

Date: June 9, 2014
Subject: Planning Statement for Mt. View Nursing Home
Permit Number: VA0063347

Information for Outfall 001:

Discharge Type: Municipal
Discharge Flow: 0.015 MGD
Receiving Stream: Great Run, UT
Latitude / Longitude: 38° 20' 19" 78° 12' 11"
Rivermile: 1.8
Streamcode: 3-XBV
Waterbody: VAN-E15R
Water Quality Standards: Class III, Section 4, Special Standards: N/A
Drainage Area: 0.12 mi²

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

This facility discharges into an unnamed tributary to Great Run that has not been monitored or assessed. Great Run is located approximately 1.8 miles downstream from Outfall 001 and DEQ ambient monitoring station 3-GRA002.01 is located on Great Run at Route 15, approximately seven miles downstream from Outfall 001. The following is the water quality summary for this segment of Great Run, as taken from the 2012 Integrated Report:

Class III, Section 4.

DEQ monitoring station located in this segment of Great Run:

- *Ambient and biological monitoring station 3-GRA002.01, at Route 15.*

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Robinson River.

Biological monitoring finds a benthic macroinvertebrate impairment, resulting in an impaired classification for the aquatic life use.

The wildlife use is considered fully supporting. The fish consumption use was not assessed.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the 2012 Integrated Report							
Great Run	Recreation	<i>E. coli</i>	1.8 miles	Robinson River Basin Bacteria 12/12/2005	*2.61E+10 cfu/year <i>E. coli</i>	126 cfu/100 ml <i>E. coli</i> --- 0.015 MGD	----
	Aquatic Life	**Benthic Macroinvertebrates	1.8 miles	----	----	----	2024

*The Waste Load Allocation has been updated and is based on the design flow of 0.015 MGD that has been applicable since the 2006 plant upgrade. The planning statement for the previous permit reissuance assigned a WLA to this facility based on a design flow of 0.0125 MGD. This facility was not originally included in the Robinson River Basin Bacteria TMDL, however the TMDL did include an expansion matrix to determine the effect of possible expansion by current facilities or the issuance of new permits within the watershed. Discharge from permitted point sources was increased by two and five times the existing permit levels. The modeling showed that the increases did not result in exceedances of the water quality standard. In addition, the bacteria loadings from this facility, at 0.015 MGD, amount to 0.008% of the TMDL allocation for the lower Robinson River. Finally, the permit for this facility will ensure the discharge meets the water quality criteria for *E. coli* bacteria at the end-of-pipe. The assignment of the updated WLA to this facility based upon the 0.015 MGD design flow is consistent with the assumptions and requirements of the Robinson River Basin Bacteria TMDL.

**Additional monitoring will not be requested from this facility in support of the downstream benthic impairment. This downstream impairment for Great Run is listed in the 2012 Integrated Report. More recent benthic monitoring conducted in Great Run shows acceptable scores for the benthic macroinvertebrate communities, which makes this stream eligible for delisting in the next Integrated Report. It is expected that Great Run will be delisted for the aquatic life use in the 2014 Integrated Report; therefore no additional monitoring is needed at this time.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

The tidal Rappahannock River, which is located approximately 77 miles downstream of this facility, is listed with a PCB impairment. In support for the PCB TMDL that is scheduled for development by 2016 for the tidal Rappahannock River, this facility is a candidate for low-level PCB monitoring, based upon its designation as a minor municipal discharger. Low-level PCB analysis uses EPA Method 1668, which is capable of detecting low-level concentrations for all 209 PCB congeners. DEQ staff has concluded that low-level PCB monitoring is not warranted for this facility as this facility is not expected to be a

source of or discharge PCBs. Based upon this information, this facility will not be requested to monitor for low-level PCBs.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no public water supply intakes located within five miles of this discharge.

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Attachment 5

Facility Name: Mountain View Nursing Home

Permit No.: VA0063347

Receiving Stream: Great Run, UT

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO ₃) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	0 %	Mean Hardness (as CaCO ₃) =	50 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	0 %	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	0 %	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	0 %	90% Maximum pH =	8 SU
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	0 %	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.015 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile ^c	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin ^c	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.24E+00	na	--	8.41E+00	1.24E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	1.24E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.36E+00	na	--	8.41E+00	2.36E+00	na	--	--	--	--	--	--	--	--	--	8.41E+00	2.36E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene ^c	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine ^c	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis(2-Chloroethyl) Ether ^c	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis(2-Chloroisopropyl) Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate ^c	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform ^c	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	na	--
Carbon Tetrachloride ^c	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane ^c	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^C	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene ^C	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD ^C	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE ^C	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT ^C	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine ^C	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane ^C	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane ^C	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane ^C	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene ^C	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin ^C	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4-Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene ^C	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine ^C	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor ^c	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene ^c	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene ^c	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC ^c	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC ^c	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC ^c (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane ^c	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone ^c	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepon	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	4.9E+01	5.6E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride ^c	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.0E+02	1.1E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine ^c	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine ^c	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine ^c	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total ^c	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol ^c	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	4.2E+03
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	1.0E+00	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	--	na	4.0E+01
Tetrachloroethylene ^C	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	--	na	4.7E-01
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	--	na	6.0E+03
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene ^C	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	2.8E-03
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	7.2E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	--	na	7.0E+01
1,1,2-Trichloroethane ^C	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
Trichloroethylene ^C	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	--	na	3.0E+02
2,4,6-Trichlorophenol ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	6.5E+01	6.6E+01	na	2.6E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = $(0.25(WQC - \text{background conc.}) + \text{background conc.})$ for acute and chronic
= $(0.1(WQC - \text{background conc.}) + \text{background conc.})$ for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 3Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 3Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Effluent pH Data
Mt. View Nursing Home STP
VPDES Permit No. VA0063347
September 2009 -- May 2014

Date DMR Due	Minimum Concentration (S.U.)	Maximum Concentration (S.U.)
10-Oct-09	7.3	8
10-Nov-09	6.7	8
10-Dec-09	7	8
10-Jan-10	6.9	8.1
10-Feb-10	7.2	8.1
10-Mar-10	7.4	8.2
10-Apr-10	7.1	8.2
10-May-10	7.2	8.5
10-Jun-10	7.4	8.2
10-Jul-10	7.4	8.2
10-Aug-10	7.5	8.4
10-Sep-10	6.9	8.2
10-Oct-10	6.8	8.1
10-Nov-10	6.6	8.2
10-Dec-10	6.9	8
10-Jan-11	6.2	7.8
10-Feb-11	6.3	7.9
10-Mar-11	6.3	7.8
10-Apr-11	6.2	7.6
10-May-11	6.1	7.6
10-Jun-11	6.3	7.9
10-Jul-11	6.3	8.1
10-Aug-11	6.2	7.6
10-Sep-11	6.3	7.9
10-Oct-11	6.2	8
10-Nov-11	6.2	7.9
10-Dec-11	6.3	8
10-Jan-12	6.2	7.5
10-Feb-12	6.1	8.1
10-Mar-12	6.1	8.3
10-Apr-12	6.3	8.5
10-May-12	6.4	7.9
10-Jun-12	6.7	8.4
10-Jul-12	6.4	8.5
10-Aug-12	6.3	6.3
10-Sep-12	6.5	9
10-Oct-12	6.2	7.9
10-Nov-12	6.8	7.9
10-Dec-12	6.4	7.8
10-Jan-13	6.2	7.9
10-Feb-13	6.5	7.4
10-Mar-13	6.6	7.5
10-Apr-13	6.3	7.4
10-May-13	6.5	8.7

Effluent pH Data
Mt. View Nursing Home STP
VPDES Permit No. VA0063347
September 2009 -- May 2014

Date DMR Due	Minimum Concentration (S.U.)	Maximum Concentration (S.U.)
10-Jun-13	6.3	7.7
10-Jul-13	6.4	8
10-Aug-13	6.3	7.8
10-Sep-13	6.2	8.3
10-Oct-13	6.4	8
10-Nov-13	6.4	7.8
10-Dec-13	6.3	8
10-Jan-14	6.5	7.9
10-Feb-14	6.3	7.1
10-Mar-14	6.4	7.7
10-Apr-14	6.3	7.4
10-May-14	6.2	6.8
10-Jun-14	6.3	7.6
90th Percentile	7.2	8.4

6/13/2014 4:49:18 PM

Facility = Mountain View Nursing Home

Chemical = Ammonia

Chronic averaging period = 30

WLAa = 8.41

WLAc = 1.24

Q.L. = .2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 2.50191091583623

Average Weekly limit = 2.50191091583623

Average Monthly Limit = 2.50191091583623

The data are:

Facility = Mt. View Nursing Home STP

Chemical = Ammonia as N

Chronic averaging period = 30

WLAa = 8.41

WLAc = 1.32

Q.L. = 0.2

samples/mo. = 2

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 2.66332452330953

Average Weekly limit = 2.66332452330953

Average Monthly Limit = 2.16577285832801

The data are:

7/1/2014 3:40:55 PM

Facility = Mountain View Nursing Home

Chemical = TRC

Chronic averaging period = 4

WLAa = 0.019

WLAc = 0.011

Q.L. = 0.1

samples/mo. = 30

samples/wk. = 8

Summary of Statistics:

observations = 1

Expected Value = 20

Variance = 144

C.V. = 0.6

97th percentile daily values = 48.6683

97th percentile 4 day average = 33.2758

97th percentile 30 day average = 24.1210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 1.60883226245855E-02

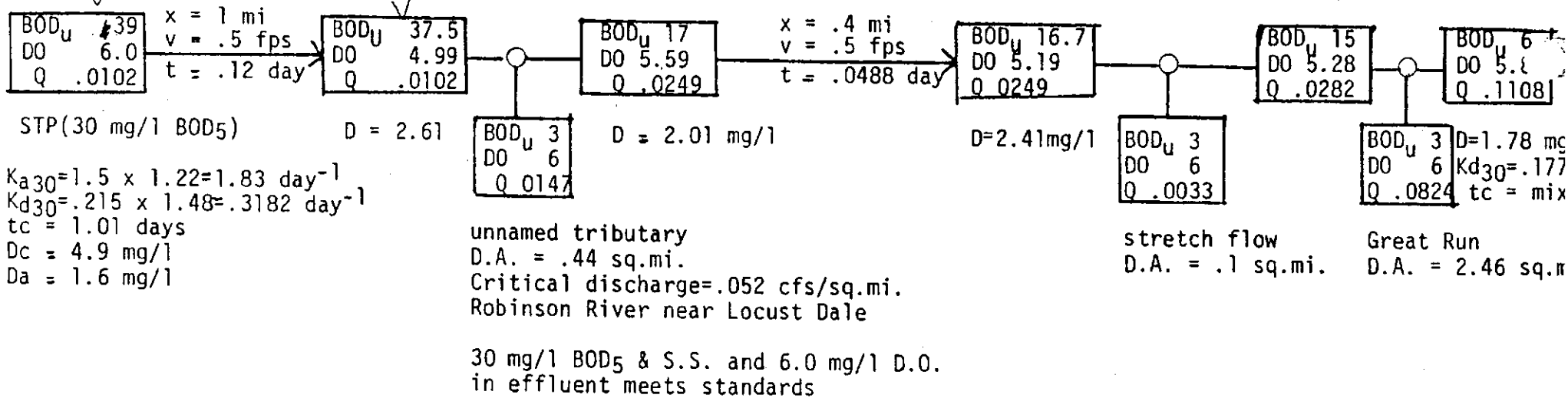
Average Weekly limit = 9.59676626920106E-03

Average Monthly Limit = 7.9737131838758E-03

The data are:

MT. VIEW NURSING HOME - MADISON COUNTY

(Madison Mills Quad)



OK
via telephone
5-18-78
JMB

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Madison County, Virginia.

PUBLIC COMMENT PERIOD: TBD to TBD

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Oak Grove Mennonite Church
1776 Elly Road
Aroda, VA 22709
VA0063347

NAME AND ADDRESS OF FACILITY: Mountain View Nursing Home Sewage
Treatment Plant
1776 Elly Road
Aroda, VA 22709

PROJECT DESCRIPTION: The Oak Grove Mennonite Church has applied for reissuance of a permit for the private Mountain View Nursing Home Sewage Treatment Plant. The applicant proposes to release treated sewage wastewaters from this high school at a rate of 0.015 million gallons per day into an unnamed tributary of the Great Run in Madison County in the Rappahannock River Watershed. A watershed is the land area drained by a river and its incoming streams. Sludge from the treatment process will be disposed of at either the Gordonsville or Moore's Creek Sewage Treatment Plants. The permit will limit the following pollutants to amounts that protect water quality: pH, biochemical oxygen demand-5 day, total suspended solids, dissolved oxygen, ammonia as nitrogen, total residual chlorine, and *E. coli* bacteria. Additionally, the permit shall monitor for nitrite+nitrate, total Kjeldahl nitrogen, total nitrogen, and total phosphorus.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Anna T. Westernik

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov Fax: (703) 583-3821

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Madison County, Virginia.

PUBLIC COMMENT PERIOD: August 7, 2014 to September 8, 2014

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Oak Grove Mennonite Church
1776 Elly Road
Aroda, VA 22709
VA0063347

NAME AND ADDRESS OF FACILITY: Mountain View Nursing Home Sewage
Treatment Plant
1776 Elly Road
Aroda, VA 22709

PROJECT DESCRIPTION: The Oak Grove Mennonite Church has applied for reissuance of a permit for the private Mountain View Nursing Home Sewage Treatment Plant. The applicant proposes to release treated sewage wastewaters from this facility at a rate of 0.015 million gallons per day into an unnamed tributary of the Great Run in Madison County in the Rappahannock River Watershed. A watershed is the land area drained by a river and its incoming streams. Sludge from the treatment process will be disposed of at either the Gordonsville or Moore's Creek Sewage Treatment Plants. The permit will limit the following pollutants to amounts that protect water quality: pH, biochemical oxygen demand-5 day, total suspended solids, dissolved oxygen, ammonia as nitrogen, total residual chlorine, and *E. coli* bacteria. Additionally, the permit shall require monitoring for nitrite+nitrate, total Kjeldahl nitrogen, total nitrogen, and total phosphorus.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

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